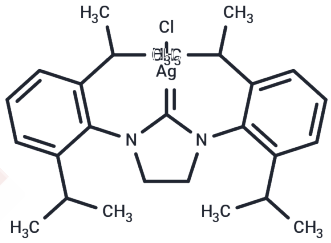
Data Sheet (Cat.No.T212772)

TargetMol

[1,3-Bis(2,6-diisopropylphenyl)imidazolidin-2-ylidene](chloro)silver

Chemical Properties



CAS No. : 873297-20-2

Formula: C27H38AgClN2

Molecular Weight: 533.93

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	[1,3-Bis(2,6-diisopropylphenyl)imidazolidin-2-ylidene](chloro)silver is a silver-N-heterocyclic carbene (Silver-NHC) complex with potent anticancer activity. It effectively inhibits the proliferation of various cancer cell lines by inducing apoptosis. Distinct from classical pathways, its mechanism is independent of caspase activation. Instead, it triggers the release of mitochondrial Apoptosis-Inducing Factor (AIF), which translocates to the nucleus to cause chromatin condensation and large-scale DNA fragmentation. As a novel organometallic anticancer lead, SIPrAgCl holds significant promise for research aimed at overcoming conventional drug resistance in tumors.
Targets(IC50)	Apoptosis
In vitro	The cytotoxicity of [1,3-Bis(2,6-diisopropylphenyl)imidazolidin-2-ylidene](chloro)silver was evaluated in HCT116 and MCF-7 cell lines using MTT assays. Results demonstrated high anti-proliferative potency, with IC50 values in the low micromolar range. Apoptotic features were analyzed via flow cytometry and immunofluorescence. Results confirmed the loss of mitochondrial transmembrane potential and the translocation of AIF from the mitochondria to the nucleus. The cell death induction remained unaffected by caspase inhibitors, validating a caspase-independent apoptotic mechanism [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8729 mL	9.3645 mL	18.729 mL
5 mM	0.3746 mL	1.8729 mL	3.7458 mL
10 mM	0.1873 mL	0.9365 mL	1.8729 mL
50 mM	0.0375 mL	0.1873 mL	0.3746 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mahajan S, et al. Rational design and synthesis of a novel anti-leukemic agent targeting Bruton's tyrosine kinase (BTK), LFM-A13 [alpha-cyano-beta-hydroxy-beta-methyl-N-(2, 5-dibromophenyl)propenamide]. J Biol Chem. 1999 Apr 2;274(14):9587-99.

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